

[illegible]

Yonkers

Cathedral of Learning

River bridge

Houses moved with factory

Public buildings

Lake

New residential squares

Garden

Hudson River

FOREWORD

This new course of six chapters discusses our housing problem—what it is and what we should do about it.

From time to time new chapters will be added to the course in order to tell you what progress Australia has made and proposes to make in her planning to cope with this big post-war problem.

The Australian Army Education Service has had invaluable assistance in preparing the text and illustrations of this course.

Thanks are due to Mr. Oswald Barnett, of Melbourne; Mr. J. F. D. Scarborough, architect, of Melbourne; Mr. Frank Heath, architect, of Melbourne; Mr. Shum, editor of the Home Beautiful; the Housing Commission of N.S.W.; the Housing Commission of Victoria; the Ministry of Post-war Reconstruction; and Consolidated Press Ltd., Sydney.

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THIS HOUSING PROBLEM

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The soul of a nation is in the
homes of the people.

—Tryst.

R.A.A.F. EDUCATIONAL SERVICES

PART 2

How shall we tackle it?

THIS HOUSING PROBLEM

CHAPTER 5

GETTING THINGS DONE:

Can State and Commonwealth work together

How can we build cheaper but better houses?

At the end of the last chapter we asked ourselves whether there was a case for combining the various State schemes. We can now discuss whether housing is a job for the Commonwealth Government, and if so, what lines policy should take.

Is housing a job for the nation? Here's what the American magazine *Fortune* says about this point:

"Stripped to essentials, the idea is this: in the long run it costs the nation less to build adequate housing for slum dwellers than to let them go on living in the slums; private capital cannot erect adequate housing for the lowest income groups and make money; therefore the rest of the nation must fork over the difference between what the poorest can pay and what adequate housing really costs."

Can any other body do the job? Does it require greater resources, greater continuity of policy, greater foresight, than private enterprise can supply? We saw earlier the reasons why private enterprise was not solving the problem. Houses built for rents are no longer the good investments they were. Private enterprise hasn't solved the slum problem either. Many slums are 40 years old. So far the States have done most of the work, but they haven't succeeded in wiping out slums or making up the housing shortage. Do you think

they'll do better in the future? Or do they need help? The objection to the Commonwealth doing the whole job is that it is a centralized organisation without the close knowledge of local problems that the States have. But can't Commonwealth and States work together?

From now on we shall work on the assumption that if we are to cure bad and inadequate housing, there is no other way except to do the job on a broad national basis.

Commonwealth authorities are coming to see the need for joint national effort. One step has been the setting up of a Commonwealth Housing Commission. The Social Security Committee reviewed housing conditions to the end of 1942, and came to this point of view, in its own words, "clearly the Commonwealth should accept responsibility for a national housing scheme."

A Commonwealth plan

The Committee drew up a plan for the housing of our people. It recommended the setting up of a Commonwealth Housing Planning Authority which would plan a post-war housing policy on the principle of Commonwealth supervision and State execution of policy under uniform legislation. (The Commonwealth Housing Commission was set up shortly afterwards, and is already at work. At the moment it is making a nation-wide survey). The Committee also recommended the setting up of housing standards, and that homes be provided for persons on low incomes by these methods:—

By purchase with 10 per cent. deposit.

By purchase without deposit.

By rental at an economic rate not more than 15 per cent. or 20 per cent. of the basic wage; and

At a sub-economic rental, within the capacity of the tenant to pay, with regard to his family obligations and income.

The Committee further recommended that State authorities be given power to condemn and order the demolition, without compensation, of any sub-standard dwelling, and to compel local authorities to survey housing conditions within their areas. It urged provision for discharge at low interest rates of burdensome mortgages, and provision for loans for repair, alteration and extension of a dwelling house.

Most important, the Committee recommended that the Commonwealth provide finance at not more than 2½ per cent. under conditions that will allow, towards the close of the war, the continuous building of homes, that the Commonwealth should guarantee advances to persons acquiring a home on a rent-purchase basis and that finally, it should provide

finance free of all charges (if necessary by subsidies) for rehousing under an active and sustained slum clearance policy "as an acknowledgment of and a national contribution towards the social problem of the slum."

The Commonwealth, the committee said, should examine building methods, costs and types of dwellings, and land values with the object of reducing the cost of homes, especially for low wage earners. The Commonwealth should also look into the regional and scientific planning of areas for housing and industrial purposes, with the object of establishing self-contained communities with recreational, educational, health and social welfare services.

What do you think of this programme? Do you think there's anything not covered? Do you agree with the recommendation that *sub-standard* houses should be demolished without compensation?

This raises the question of what compensation should be paid to slum-owners whose property is called in for slum clearance. Should we pay the Valuer-General's valuation? That seems fair at first glance, but the Valuer-General bases his values on what the property fetches in rent, and what other nearby properties have been selling for recently. Slum rents are too high and land in the slums is sold for inflated prices. Should we subsidise exploitation and speculation?

This isn't a theoretical matter. If we are going to pay high compensation, the country can't afford to clear the slums at all. In Paris they started to pay market prices, and before long they found that, while they had some land, they had no money left to start building. In England, land prices for low rental housing, where the government undertakes slum clearance, are fixed not on "some speculative use contemplated or suspected as possible by the original owner," but on the basis of the cost of proposed buildings and the reasonable charge that can be made for the use of the land (usually about one-fifth of the cost of land and building).

Can we make land cheaper?

So one of the things we must do in any national rehousing scheme is to find some way of keeping down the price of land. It is hard to compare land prices, but one economist says that the price of land in London is less than in Sydney or Melbourne, in spite of London's larger size and great density. Perhaps this is a case for the Prices Commissioner. And what do you think of the idea of a Betterment Tax (as they have in parts of New Zealand), to take a large part of any increase in the value of land for the community, whose progress has caused the increase? It seems certain that

unless we can keep down the price of land, we won't be able to have any large-scale slum clearance and rehousing programme.

Now what about buildings which are ordered to be demolished as unfit? From our earlier argument, in which we saw that the owner should have accumulated enough to replace the house at the end of its useful life, isn't there a case for paying only the price of the building as scrap? This is the English policy, and it has been adopted in Melbourne, although there they can make a "grace" payment to anyone who would be unduly hurt by that action—say a widow whose only property is her slum house. What policy should we follow?

Money mustn't be wasted

Government projects, including those of housing, have often been very costly in the past. The suggestions made by the Social Security Committee would mean the largest peacetime expenditure of government money in history. What guarantee have we that the money won't be wasted? Doesn't that depend on how careful our preparations are? Isn't that an argument for beginning research now, as the Committee suggests?

The final form of any Commonwealth housing scheme must depend on administrative convenience, but we can get some idea of how such a scheme could work. Suppose the Commonwealth gives the Commonwealth Housing Commission power to finance housing in the Australian States. That Commission would decide whether a particular project put forward by a State was justified and timely, and if so, whether and on what terms finance could be found for it. Each State would survey conditions in its area and put up projects to the Federal body. The State governments would find part of the money, the rest being borrowed from the Commonwealth and repaid from the proceeds of rents. In the end, the housing estates would belong to the States.

The Commonwealth would not carry out the work, but it would supervise it. It would decide the maximum cost of each project, the types of houses to be built, ways in which materials would be bought (so as to prevent rises in materials costs), rentals to be charged, and so on.

Houses on trial

On the question of the type of houses, it was reported in the press recently that the Commonwealth Housing Commission planned to build a number of experimental houses which would be tested by the people living in them. In this

way, it was claimed, cheap but sound methods of home construction would be studied, together with the reactions of householders to homes having varying degrees of conveniences, including hot and cold water, refrigeration and washing machines, and particular types of furnishings and fittings.

The number of these experimental houses, the Commission said, would be limited because of the shortage of manpower and materials, but it planned to use the latest overseas construction methods, including pre-fabrication of interchangeable sections. Special attention would be paid to ideas for lightening kitchen work.

The Commission said that tenants selected would be representative of a cross-section of the community. They would be required to make periodical reports of living conditions in these houses, drawing attention to shortcomings, and suggesting improvements. The Commission said that information gathered in this way would be embodied in its report to the Commonwealth Government on post-war large-scale rehousing projects.

Who will pay for it?

As we've seen previously, Australia's housing problem resolves itself into two main sections—(a) an economic section covering workers who would be provided with homes according to their means, either at a full rent, or by purchase, with or without deposit, but in either case on easy terms; and (b) a sub-economic section, which includes slum clearance and rehousing, demolitions of bad dwellings, replanning and rebuilding former slum areas, either at an economic rent for those able to pay, or more probably at a sub-economic or concession rent; for many in this section the number of dependants or a small family income, or both, may make it impossible to pay the full rent. Different methods will have to be adopted for these two sections. The Commonwealth can expect to get back all the money it lends for economic housing because that doesn't involve a loss. But sub-economic housing loses money in order to meet the need. Where is the money to come from?

That brings up the whole question of finance—a knotty problem we won't answer in a few paragraphs. We've all been struck by the paradox that governments who couldn't find money for urgent projects in peacetime seem to have unlimited resources in wartime. Resources aren't unlimited, of course, but they are a great deal less restricted than we previously thought. After this war nations will use their manpower, land and materials, as a general does his army—

finding ways in which resources can be spread out to give the best results.

For economic housing, which means lending money which will be repaid, the Federal Government can probably borrow from the public or from banks and insurance companies. In the past most housing was financed privately; but interest rates were high because the risks were large. High interest rates have been one of the chief causes of dear housing. The Federal Government can borrow at lower rates; it can lend at low rates also, if it's careful to see that the money is well spent. In future the private mortgage market for low cost houses is likely to disappear in favour of government lending.

Many schemes have been put forward for financing a national housing scheme. Let's look at the problem.

If you or I want to build a house we can do it in two main ways:—

1. We can build it ourselves in our spare time or take time off from work. Either way we have to give up something—our spare time, our wages. Even then, unless we carve it out of the bush or build it with materials nobody else wants, we should have to pay our cash for materials and “fixings”; or we can hire the labour, buy the materials, and pay for them out of our own savings.

2. We can borrow some one else's money and with it hire labour and buy materials.

The first way is, in effect, taxation—in these cases we tax ourselves—and in doing so go without something else we would have done with our time or had with our money. Only if we want the house *more* than the other things will we do either of these things, and pay the price of lost time or lost cash for them.

If, however, we ask other people to give up their money so that we can use it in this way, they expect to be compensated for going without other things while we are using their money. We call this interest.

Now, a national housing scheme can be provided in one or other of these two main ways—taxation or borrowing. Either some of us give up to the government altogether some of our cash to be used for this purpose; or the government borrows it from people, pays them interest while using it, and at some fixed date, repays the original sums. But isn't there another way—can't we “create credit” and so escape both of these awkward sacrifices?

There is a lot of muddled thinking about this problem. It sounds so easy. But if it's as easy as it sounds, don't you think governments would long ago have used it so extensively that everyone would have all he wants without sacrificing any of his time, hard-earned cash, or thought to “how it was going to be done”? The truth is that “credit creation” is another form of taxation—a disguised form which will hurt our pockets as much as straightout taxation, unless special circumstances exist—such as a large amount of unemployed labour and idle resources. Then, and only then, because *at the time* no one has money to spend himself, and because no one is able to borrow from others who have and are not spending it, will “credit creation” by a government put spending power into circulation that will enable these idle resources and labour to be used. A spot of “credit creation” during the depression of the 1930's would have set the wheels of industry going very speedily. Once started again, the “created credit” process would have had to be tapered off because presently this extra spending power would have begun to compete with the spending power of all the wage earners in the community, would have sent prices soaring, and in this way, would have taxed them by taking away some of the goods and services they could have bought if prices had been kept from rising too far. We saw in the German inflation of the 1920's what happens when “credit creation” is allowed to get out of hand.

What we can try to ensure in planning national housing schemes is that we use each of these means as the circumstances seem to warrant.

By taxation and borrowing

We may finance them partly by taxation, and partly by borrowing through government loans—both of which divert labour and resources from something else to housing. (You follow that, don't you? Bill is taxed, or lends, the money. If he had kept it, he would have spent it on the “something else.” He has it taken away from him through taxes, or loans it—and the government then buys what *it* wants—houses.)

By borrowing at normal market rates of interest, the government will obtain all the capital it needs for a vast housing scheme. It can then loan the money to the tenants or buyers of its houses at a lower rate of interest than it pays for it, by using taxes to meet the difference between the two. In this way, the sub-economic housing we referred to in the last section can be let at a rental which will be well within the means of the lower income groups; while the economic section could be provided with homes at higher rentals than this former group, but not higher than, say, a maximum of 20 per cent. of the total weekly income of tenant.

Interest is the biggest factor in ordinary rents. The Victorian Housing Commission estimated that when the interest charged on the capital was 4 per cent., it was about two-thirds of the full economic rent, or, put in other words, what will cover interest, rates, repairs, etc., and allow the Victorian Housing Commission to balance its budget. It is considered desirable that no economic rent should exceed a fifth or 20 per cent. of the tenant's income. When interest was reduced to about 3½ per cent., the proportion of interest fell to about one-half of the total rent. For example, in an economic rent of £1, interest accounts for about 10/-. If interest were wiped out, that 10/- would pay all charges, such as rates, taxes, repairs, maintenance. If money were made available to the Commonwealth Housing Commission at a very low rate, it would enable these three desirable things to be done:—

- (a) The economic weekly rent could be set so as not to be more than 20 per cent. of the total weekly income of the tenant, instead of from 22-24 per cent., as it often is today.
- (b) The rebates given to meet tenants who can't pay the full economic rent would not result in a loss each year.*
- (c) A housing scheme paying a very low rate of interest would show a yearly surplus which could be used to expand the scheme.

While the war continues it is not wise to launch a big building credit scheme, but we should blueprint a Commonwealth scheme, at low interest rates.

Only in this way can we ever hope to rehouse those living in slums, and, at the same time, overtake the housing shortage.

No magic way

There is no magic way to create houses by adding noughts in a Commonwealth Bank ledger. Building houses is hard work; it means going without other things we could have made, and diverting some expenditure from other things. There is no short cut, but do you think that Australia can find time enough, and resources enough, after the war to build the homes you want? If so, then money will be available, because it is mainly a measure of labour-time and resources.

*Tenants who get £3/10/- week or more, pay the full economic rent, but those who don't, are given rebates of threepence per every 1/- they fall below £3/10/-.

There's another point. Do you think more liberal terms should be offered to purchasers than those which are now offered by State savings bank, building societies, and co-operative societies (N.S.W. type)? As you'll see, the deposits asked are rather high. Taking as an example, a house with land costing £1,000, those facilities now are:—

	Deposit	Required	Term
Building Society (Victoria)	£300		21 years
State Savings Bank (Victoria)	£300		21 years
Co-operative Building Society (N.S.W. type)	£100		21 years

(The scale of repayments of the Co-operative Building Society (N.S.W.) is based on advances from trading banks to the societies at 5 per cent. and includes a small weekly, or monthly charge for administration).

It is suggested that in working out purchase terms for the "economic" tenant (that is, the tenant who is in receipt of a reasonable income, but who for some reason has not saved, or is not able to save a deposit) the scale should provide that weekly or monthly payments during the first years be increased by an amount which would have the effect of "establishing" the deposit. Appropriate tables of payments for persons able to provide amounts by way of deposit do not present any difficulty.

Mass production savings

Those who cannot afford to meet increased payments in the early stages of repayment could be met by having houses provided for them in housing settlements. The savings effected by mass production, etc. (when compared with cost of construction of an "individual" house unit), would "establish" the equivalent of a deposit. The Victorian Housing Commission has found that mass production methods in settlements mean a saving of about £230.

The cost of a two-bedroom unit with land under mass production would be about £770—built as an "individual" unit, it would cost about £1,000. The result is a "deposit" of £230 on a house valued at £1,000.

That amount is arrived at as follows:—

Saving of £20 per square (100 square feet floor area) on two-bedroom unit of 8 squares	£160	0	0
Saving on land by subdivision and development by a State Commission	70	0	0
	£230	0	0

Along what lines do you think the Commonwealth Housing Commission should carry out its survey?

You can't use the same sort of house in Port Hedland and Cape Wilson. We'll have to experiment to find the most suitable types. Victoria recently held a competition for good housing designs; a Commonwealth-wide competition might

be a good idea. Each estate will present different problems; the type of house or flat is only part of the work. The layout of the estate is also important; each house must get the maximum sunlight and air.

The relative urgency of different projects must be decided, as well as the probable future development of areas. It would be foolish to build houses in a declining area just because the present houses are dilapidated. The correct thing to do is to move the inhabitants to new homes elsewhere. Whole new towns may have to be built, as we shall see in Chapter 6.

Is housing then a job for the nation? Are you satisfied that the Commonwealth should do this work along with the States? Can you suggest other ways than those we've mentioned? Do you agree that it is necessary to "take the pressure off the slums" by building many houses before slum demolition starts? Do you agree that credit creation can be used to a limited extent? There are so many questions that have to be settled before we arrive at a practical housing policy that it's hard even to mention them all. But because there is so much to do and to decide, isn't it urgent that we start on the preliminary work now?

Rehousing is such a tremendous job, and its cost so great, that unless we can economize severely we may never carry it through.

Costs are high

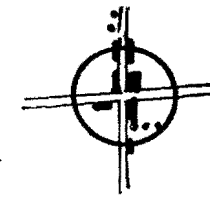
Building in this country is a small-scale industry, and its costs of production are therefore too high. Large-scale production is necessarily cheaper. There are two main methods of doing this, both of which may produce considerable economies. On one hand, you can increase the scale of work so that more houses are put up by the one organization on the one project at the same time, and on the other hand, you can reform the actual building techniques and the methods of manufacturing and supplying materials.

The selling price of a house is made up of the costs of (a) land and its improvements (sewerage, drainage, roads, etc.), (b) labour, (c) materials, and also (d) the cost of money (the interest rate) and (e) the legal costs involved in the change of ownership of real property, (f) the builder's profit and (g) the architect's fee. Large-scale organization can reduce many of these cost items.

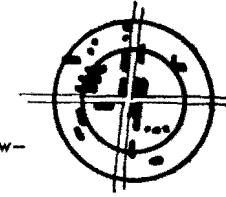
Earlier we said that the building trade was in the horse-and-buggy stage while the rest of our industry has proceeded to the age of mass production. Buildings are still tailor-made on the site by methods which may suit a millionaire, who wants something distinctive, but are out of the reach of the pocket of a man on a moderate income. What ways can we suggest of improving building methods?

Let's look at some of these cost factors.

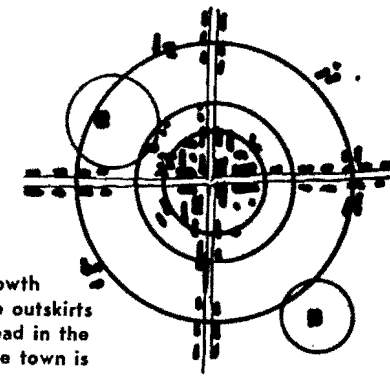
A town is born—at the crossroads. Houses and business mixed.



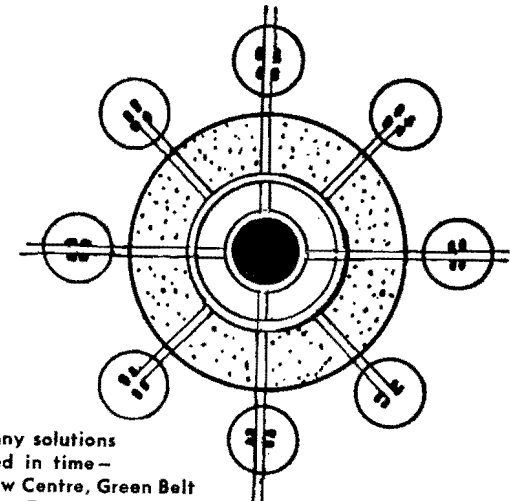
The town begins to grow—new houses in the outer ring.



Uncontrolled growth continues on the outskirts while slums spread in the centre. Again the town is at the crossroads. Most Australian cities are at this stage now.



One of many solutions
—if planned in time—
Zoning, New Centre, Green Belt
and Satellite Towns.



Land is a big part of housing costs. Bought singly in ready-made plots it can be very expensive. On slum sites land is often the biggest item. The best way to reduce land cost is to take an undeveloped area and plan it as a housing estate. In recent years Britain and America have worked out very interesting principles of estate planning, which really mean a revolution in ways of living. Each new estate becomes a community in itself with communal shops, kindergartens, playgrounds, swimming pools, and so on.

American housing experts point out that a neighbourhood often had good houses, but yet becomes "blighted" because factories creep in and because it is not preserved as a good residential area. They, therefore, insist on zoning areas to keep factories and homes apart. They discourage heavy through traffic on residential streets. Roads are not necessarily straight or regular but follow the contours of the land. This makes road-building cheaper. All services such as gas, water, sewerage, electricity, are laid down before building of houses begins. As far as possible they are located in grassed plots alongside the road to avoid the wasteful tearing up of made roads. Moreover, only light paths are laid through the settlement, main roads being by-passed. Natural features and trees are preserved.

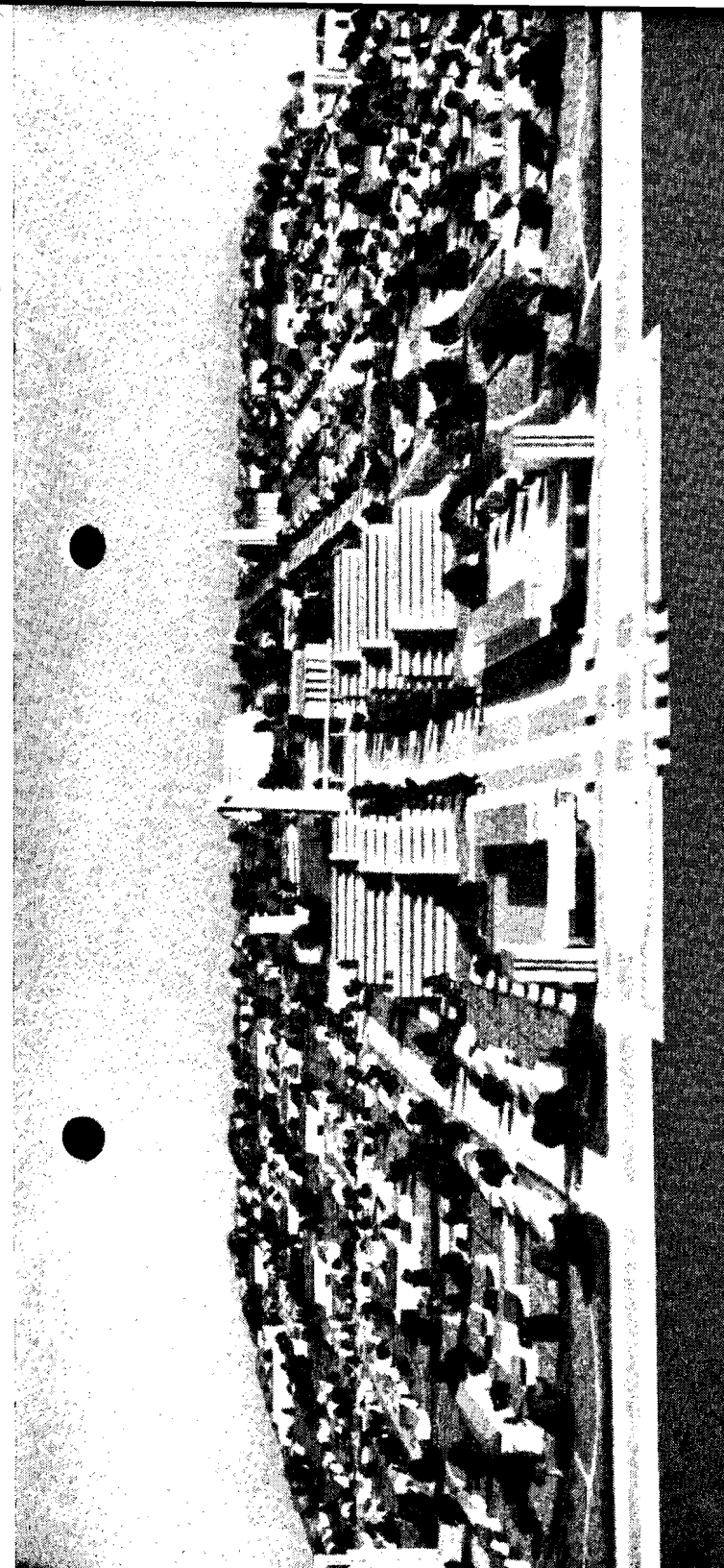
On any new settlement shops and other commercial sites will be needed; sites can be provided for them on the estate plan. Business men will pay well for these commercial sites; sometimes enough can be made in this way to pay for the development of the estate. In some settlements commercial sites are not sold but leased; as the estates grow more prosperous, the rents for commercial sites can be increased.

Schools, churches and parks are included in modern American estates, and in the long run increase the commercial value of the settlement.

Building security into homes

The whole American trend is to think in terms of neighbourhood units rather than of individual homes or streets, and to "build security" into homes by making sure there is a satisfactory environment for them.

The town of Radburn, in New Jersey, is an example of what neighbourhood planning can achieve. Radburn is owned and controlled by the City Housing Corporation of New York, a company which voluntarily restricts its profits. Radburn is built on 1,250 acres, of which more than 100 acres are parks and playgrounds. There are special overhead traffic routes; all the paths in Radburn pass beneath them in order to pro-



MODEL OF A PLANNED NEIGHBOURHOOD UNIT

This model of typical neighbourhood unit was part of a recent housing exhibition in Melbourne, sponsored by the Melbourne University Extension Board and the Housing Commission of Victoria. This neighbourhood unit would occupy 324 acres. It is surrounded on all sides by main traffic roads. All roadways within the unit are minor roadways with access only to dwellings and community facilities. The cul-de-sac type of roadway is largely employed. These roads ensure safety for children from through-traffic, quietness, and economy in road construction.

The community centre and primary school is the central point in the neighbourhood unit and all dwelling units are placed at a maximum distance of one-third of a mile from it. Five nursery schools in suitable areas provide facilities for pre-school education.

Shopping areas are placed so that no dwelling unit is further than one-quarter of a mile from any group of shops. A parkway system of 65 acres (20 per cent. of the total area) is provided.

The community centre provides the following facilities:—Infant welfare section, nursery school, club rooms, library, reading room for all ages, concert hall, picture theatre, gymnasium, swimming pool, canteen and outdoor recreational facilities. This proposal affords a logical and essential foundation upon which the future of Greater Melbourne should be based. It provides a key to all future development and would ensure adequate and essential "living space" in the form of a carefully planned park scheme and an essential limiting "belt," restricting uncontrolled extension.

tect people from road dangers. All children can reach school without crossing a motor highway. The houses are surrounded by green trees and lawns, and are built around big blocks, in the centre of which is a park. Each elementary school has playfields for baseball and football. There is a swimming pool. The Housing Corporation has built a community building with clubrooms and an auditorium.

The Buhl Foundation, at Pittsburgh, houses 300 families. Natural slopes have been used to give pleasing designs, privacy and convenience. Gardens and play space are plentiful; less than one-third of the ground is built on. Motor vehicle routes do not cross the area. The Buhl Foundation rents the cottages at the minimum economic rental. No cottage is sold.

Working along these lines the Victorian Town and Country Planning Association has planned the future development of two towns, Wangaratta and Swan Hill. Commercial, industrial, civic and residential areas have all been zoned. (See plan of Wangaratta on opposite page.)

You can reduce labour costs if men work regularly on the one type of job and in the one gang. The South Australian Trust found that, in spite of wage rises, the working costs of gangs were reduced, because men worked constantly in standardized jobs to which they had become accustomed. Standardized designs and methods and regular full-time work, instead of the usual broken work which a building labourer gets, would reduce costs considerably.

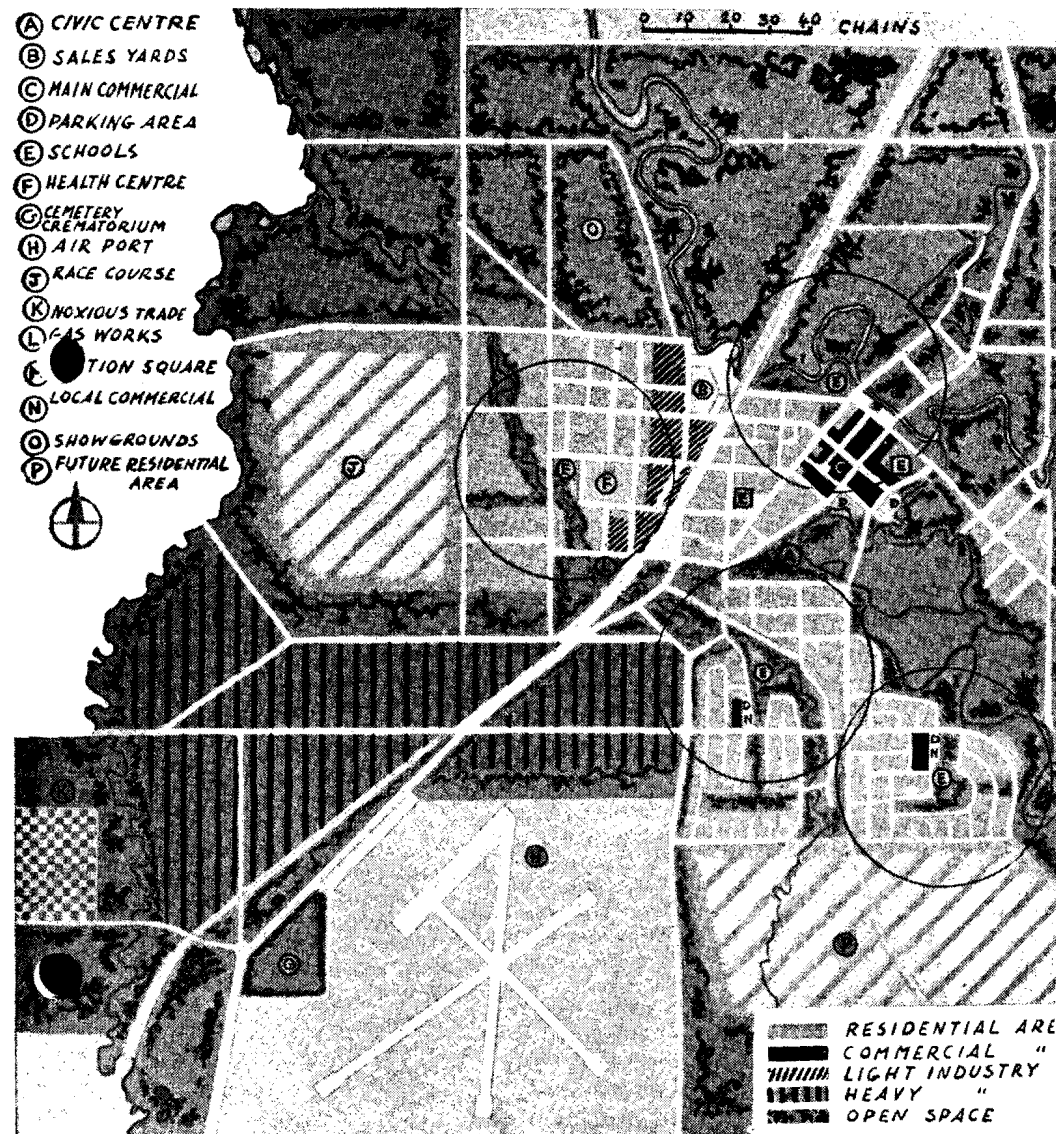
Organizing production

On the production side, the solution to the housing problem is in mass production, bulk buying of materials, and standardization of all materials, processes and methods in building. How is this done?

At the present time the South Australian and Victorian housing authorities are making substantial savings by large scale operations. They buy in bulk from manufacturers, give firm orders for delivery over long periods, and pay promptly. Manufacturers can reduce prices because they are sure of their money and have to carry less stocks. They reduce their production costs by concentrating on a few lines.

There's another aspect of bulk buying which is important. The Victorian Housing Commission gives bulk orders for pre-fabricated, standardized cupboards to a single firm. For example, the commission bought pre-fabricated cupboards and this was cheaper than making cupboards on the site.

A PLAN FOR WANGARATTA (VIC.)



This long-range plan has been recently adopted by the municipality of Wangaratta (Victoria). The plan provides for an orderly development of Wangaratta (see legend top left). Areas are zoned for new industry, residential building and so on. The chaos of most of our unplanned towns will be avoided.

The circles on the plan show where the schools are to be—with no house more than one-third of a mile away.

Standardization is a fruitful cost-saver. It need not mean uniform appearance in houses. It simply means that the best specification possible is drawn up for each article, and then this becomes the model to be followed. Many small items in houses, such as window sizes, can be standardized without loss of variety in the finished house.

To avoid the dull effects of standardization one has only to use a variety of colour, or to change the arrangement of rooms or the arrangement of houses on the land.

Standardization is of little value unless it is linked to mass production. If a large number of similar objects is produced under factory conditions, big savings are possible. But there is no point in producing a few items. We need a big building programme to take advantage of standardization.

What about pre-fabrication?

A favourite subject for fantasies of the future is the pre-fabricated house, delivered ready-made to the site. But we are nowhere near this yet. Up to now, pre-fabrication of complete houses is in an experimental state, and offers few savings.

In the strict sense of the word a pre-fabricated, ready-made house is never manufactured. It is possible to manufacture in bulk certain parts of a house, and deliver them, or to pre-fabricate the whole external walls of a house, and assemble them on the site. The first method does save something if enough parts are mass produced. We have mentioned pre-fabricated cupboards, which can be factory-made and delivered to the site very cheaply; but apart from a few items like that, and the furnishings of bathrooms and kitchens, pre-fabrication doesn't offer much savings so far. Kitchens today are often supplied with a panel with all necessary fittings, such as stove and sink; whole fittings for a bathroom are sometimes crated and supplied, ready for connecting.

But pre-fabrication of a whole house and delivery to the site is not near. Processes have been worked out for the factory to manufacture the walls of a house which can be assembled on the site, but producers are up against two big difficulties, transport costs, and the fact that demand is so small that large scale manufacture is impossible so far.

In the pre-fabrication of timber houses, two principles are used: the "ready-cut" and the "panel." In the first, all timber is cut in factories. In the panel method, whole sides of a house are manufactured in factories and erected on the site, not necessarily by skilled labour. This is the method used in the Swedish timber "Magic Homes," which are built by people in their spare time, with some technical assistance. (See pages 22-23).

The success of pre-fabrication depends on an increased demand for factory-built homes. For the present that is not likely. Perhaps the public can be educated to accept them.

Here are some examples of how building costs can be reduced: mass production, standardization and bulk buying has enabled the Victorian Housing Commission to erect in bulk during 1940-41:

Brick house for two persons	for £460
Brick house for four persons	for £567
Brick house for six persons (single storey)	for £622
Brick house for six persons (two storey)	for £701

including blinds and all lighting fittings, etc., fencing, paths, clothes posts, and lines.

This shows what can be done if the problem of housing the low income group is tackled scientifically.

What do you think of the prospects of cost cutting? Do you think it is possible to avoid the appearance of standardization in mass-produced homes? Would you like the idea of a community settlement? Do you agree that pre-fabrication is limited in value at present? Are there other ways you can think of for reducing costs?

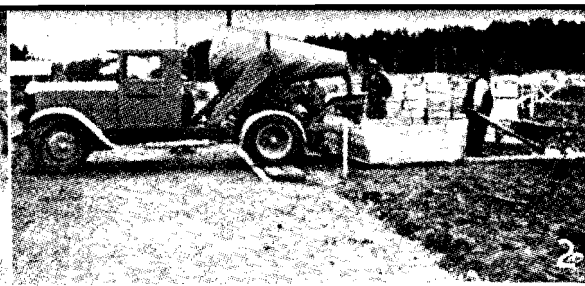
Costs, as we've seen, can be reduced by bringing the machine age to building. Estate building, mass production, standardization, bulk purchase of materials, regularity of production so that labour can be stabilized—these are the methods by which housing costs can be cut down. How much can be saved is problematical. New methods of building may eventually save us up to a third of the usual costs, and we ought to aim at producing a good cottage for £400.

Jobs for 300,000

A large-scale housing scheme will mean plenty of jobs. Let's see how many men in the building trade and allied industries would be kept busy if we started to build 50,000 houses a year when peace comes. Building spreads employment more than any other industry.

British estimates show that for every two men employed directly on house building, three are needed in associated industries. In New Zealand, where the State has completed nearly 14,000 houses in six years, the proportion is three men on the job to seven men in allied industries.

On a similar basis, Australia's 50,000 houses a year programme would employ 100,000 directly and more than 200,000 in allied industries, that is, 300,000 jobs for 10 years.

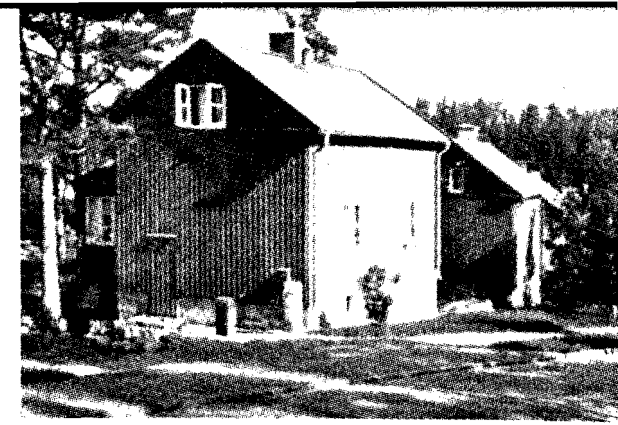


In Sweden families build their own cottages. The municipalities provide the plans and send trained crews to help with the building. (See picture-story).

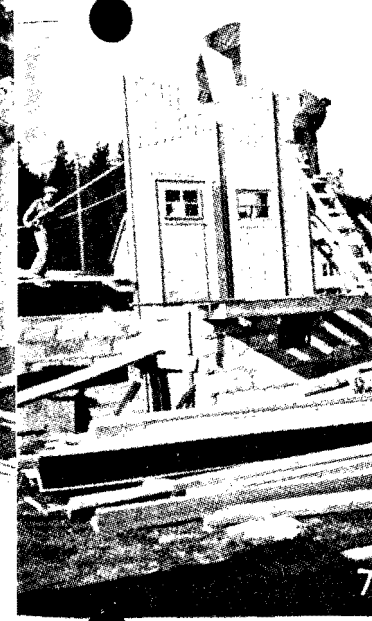
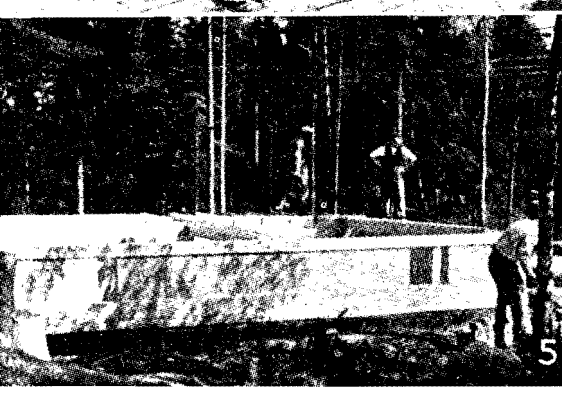
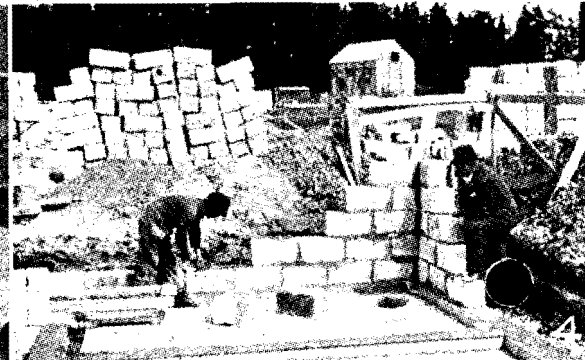
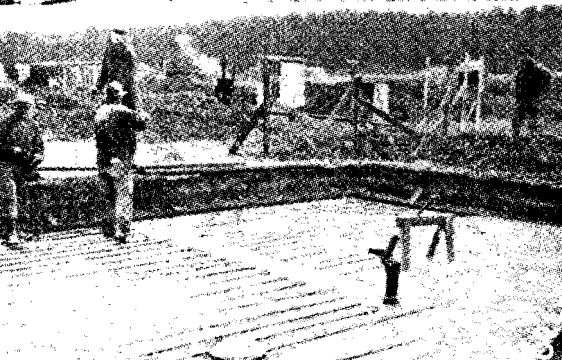
People have the choice of five types of houses. Because the parts are standardised and mass-produced, building costs are much lower than for houses "tailored" on the spot.

Does this standardisation lead to monotony? Here's what Nancy Robson said in a recent A.B.C. broadcast:

"Well, I wish you could see the Stockholm cottage colonies, with their gaily painted houses scattered about among apple and plum and rowan trees, and separated by low hedges which turn their gardens into one vast park; with their brightly coloured flowerbeds; their flourishing vegetable plots; their charming attic bedrooms with painted furniture and sloping roofs. Most of the colonists built arbours in their gardens, and in summer ate their meals outside."



Two typical prefabricated Swedish homes. No deposit is asked, and easy terms extend over 30 years.



Air view of settlement of prefabricated houses at Angby (Stockholm), with untouched forest and lake.



It takes many Jacks to build a house. First, there are the men on the job—the carpenters, bricklayers, plumbers, painters, electricians, ditch diggers, cement finishers, and the army of skilled, semi-skilled, and unskilled men who work with them.

Behind them are the materials producers—the miners, timber-getters, timber-mill hands, brick and tile makers, cement producers; the men who make baths, taps, doorknobs, electrical gear, wall-board, asbestos, paint, nails, hardware fittings, and a host of other articles.

Between these two great groups are the transport workers, who carry material to the factories and the finished articles and parts from the factories to the job. Also there are thousands of buyers and sellers of materials, the middlemen and their office staffs, the land agents, surveyors, civil engineers, architects, draftsmen, and planners.

But there is more to housing than building. Roads, foot-paths, fences, water, sewers, stormwater drainage, gas and electricity, are needed. Houses also need furnishing and equipment to become homes.

Controls needed

To achieve a full housing programme there will be need for material priorities and manpower control. England is planning a ten to twelve years' housing and building programme, involving the steady employment of 1,250,000 builders and 4,000,000 workers in allied industries. Government control of materials will be maintained for this programme.

New Zealand's post-war housing plan envisages a fifteen-year programme of 9,400 homes a year.

This approach to the housing problem holds a lesson for Australia, in that both countries have accepted the need for planning and continuation of manpower and supply controls to achieve the plans.

Do you agree?